CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/NS/W.No.14/CSR-05/334d/CEMENT/2017-18 Date: 15.05.2017

TEST REPORT ON CEMENT

*** Customer**	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
*** Agency**	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
*** Name of Work**	:	Improvements to roads and drains at Vijaya Lakshmi Layout and Bagalagunte in Bagalabunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
*** Reference**	:	BBMP/DZ/AEE/TDSD/PR/70/2017-18 Dated: 12.05.2017
*** Sample ID**	:	Cement
Sample Received on	:	12.05.2017
Period of Testing	:	12.05.2017 to 15.05.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	180 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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VIDYARANI P.K.
Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/NS/W.No.14/CSR-05/334d/SAND-Gradation/2017-18 15.05.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

*** Customer**	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
*** Agency**	: **Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
*** Name of Work**	: Improvements to roads and drains at Vijaya Lakshmi Layout and Bagalagunte in Bagalabunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
*** Reference**	: BBMP/DZ/AEE/TDSD/PR/70/2017-18 Dated: 12.05.2017
*** Sample ID**	: Fine Aggregates
Technical Reference	: IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	: 12.05.2017
Date of Testing	: 15.05.2017

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.10	90-100	90-100	90-100	95-100
2.36	78.10	60-95	75-100	85-100	95-100
1.18	58.10	30-70	55-90	75-100	90-100
600 Micron	25.60	15-34	35-59	60-79	80-100
300 Micron	10.40	5-20	8-30	12-40	15-50
150 Micron	4.50	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/NS/W.No.14/CSR-05/334d/AGG/GR/2017-18 15.05.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
* Name of Work	:	Improvements to roads and drains at Vijaya Lakshmi Layout and Bagalagunte in Bagalabunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/70/2017-18 Dated: 12.05.2017
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	12.05.2017
Date of Testing	:	15.05.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.42	95-100	85-100
20	35.42	30-70	0-20
10	14.38	10-35	0-5
4.75	1.88	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/NS/W.No.14/CSR-05/334d/CC Solid Block/2017-18 17.05.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF SOLID CONCRETE BLOCKS

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
* Name of Work	:	Improvements to roads and drains at Vijaya Lakshmi Layout and Bagalagunte in Bagalabunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/70/2017-18 Dated: 12.05.2017
Technical Reference	:	IS: 2185 (Part-1) - 2005 (RA-2010)
Size of Blocks	:	400mm x 200mm x 200mm
Cross Sectional Area	:	80000 mm^2
No. of Blocks Tested	:	08
Sample Received on	:	15.05.2017
Date of Testing	:	17.05.2017

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS: 2185 (Part-1) - 2005 (RA-2010)
1	Block 1	34.29	282.3	3.53	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	35.26	283.5	3.54	
3	Block 3	36.38	286.2	3.58	
4	Block 4	34.19	284.6	3.56	
5	Block 5	35.28	285.3	3.57	
6	Block 6	36.33	286.5	3.58	
7	Block 7	35.92	282.7	3.53	
8	Block 8	36.69	285.7	3.57	

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Job No.: CTCE/BBMP/NS/W.No.14/CSR-05/334d/Precast slab/2017-18 20.05.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
* Name of work	:	Improvements to roads and drains at Vijaya Lakshmi Layout and Bagalagunte in Bagalabunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/70/2017-18 Dated: 12.05.2017
* Sample ID	:	Precast slab (100mm thick)
* Grade of Concrete	:	M_{20}
Techinical Reference	:	IS:516-1959 (RA- 2013), SP-24:1983.
Sample Received on	:	15.05.2017
Date of Testing	:	20.05.2017

Sl. No	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	79.00	0.391	2520.69	1.58	0.955	30.25	15.41	16.64	17.43	21.79
2	50.00	80.00	0.396	2521.01	1.60	0.957	32.90	16.76	18.10	17.31	21.64
3	50.00	82.00	0.405	2515.42	1.64	0.961	33.95	17.29	18.67	17.95	22.43

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ಟಿ.ದಾಸರಹಳ್ಳಿ ಉಪ-ವಿಭಾಗ
ಬಾಗಲಗುಂಟೆ, ವಾರ್ಡ್
ಬೆಂಗಳೂರು

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
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Job No.: CTCE/BBMP/NS/W.No.14/CSR-05/334d/Cube/2017-18 19.06.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte,
* Name of the work	:	Improvements to roads and drains at Vijaya Lakshmi Layout and Bagalagunte in Bagalabunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/70/2017-18 Dated: 12.05.2017
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{15}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	19.06.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	22.05.2017	19.06.2017	8.162	365.6	16.25
2	22.05.2017	19.06.2017	8.292	379.8	16.88
3	22.05.2017	19.06.2017	8.328	389.5	17.31

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